EFFECTIVENESS OF JACOBSON PROGRESSIVE MUSCLE RELAXATION EXERCISE ON PREMENSTURAL SYNDROME AMONG ADOLESCENT GIRLS IN SELECTED SCHOOL AT COIMBATORE.

COIMBATORE

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE DEGREE OF

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DEDICATION

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The book is dedicated to my father, MR.P.VINCENT

who is the guiding Force in my life and

to my mother Mrs.G.RAJAMMAL.

I take this opportunity to register my heartfelt

gratitude to my brother`s Mr.PRAVIN Mr. SUTHERVIN

for their forbearance during The preparation of this book.

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ABSTRACT

ABSTRACT

INTRODUCTION: Women are smart and savvy. Striving to live up to their potentials, they are curious about the world they live in and want to make a difference. But adolescent is a period they struggle with the issues of menstruation. OBJECTIVE: To evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls. DESIGN: A quantitative approach using quasi experimental pre-test post-test design with control group. PARTICIPANTS: 60 adolescent girls with mild to moderate premenstrual syndrome was selected using Non probability purposive sampling technique in KPM Matriculation Higher Secondary School at Coimbatore. INTERVENTION: Jacobson Progressive Muscle Relaxation Exercise was given for a period of 15-20 minutes once a day for 30 days. TOOL: self administered modified Stainer and Wilkins PMS diagnostic criteria were used to assess the level of PMS. RESULTS: Analysis using Paired‘t’ test found significant. CONCLUSION: The findings of the study revealed that Jacobson Progressive Muscle Relaxation Exercise helps in decreasing premenstrual syndrome among adolescent girls.

Key words: Premenstrual Syndrome, Jacobson Progressive Muscle Relaxation Exercise.

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INTRODUCTION

CHAPTER I

INTRODUCTION

The menses in sensitive women is almost always attended by

Mental uneasiness, irritability and sadness

- ***Rvbinao & Schmidt 1995***

Menstruation is a normal physiological cycle common to all females in the reproductive age group. The initiation of menstruation takes place during the early adolescence period. Nearly all women of child bearing age have some premenstrual symptoms, but those between their late 16s and early 40s are most likely to experience Premenstrual syndrome (PMS).

The term Premenstrual syndrome was first coined by Greene and Dalton in 1953[N19]. It has been defined as "the cyclic recurrence in the luteal phase of the menstrual cycle of a combination of distressing physical, psychological, and behavioral changes of sufficient severity to result in deterioration of interpersonal relationships and or interference with normal activities.

The physical symptoms of premenstrual syndrome includes breast engorgement, breast tenderness, abdominal bloating, constipation or diarrhea, acne, headache, fluid retention, weight gain, clumsiness, nausea and vomiting, heart palpitation, appetite change, fatigue, muscle aches.

The psychological and behavioral symptoms of premenstrual syndrome are

depression, anxiety, panic attack, insomnia, irritability, outbursts of anger, hostility, food craving (salt and sugar), mood swings, inability to concentrate, memory loss, withdrawal from other people, confusion, lethargy and fatigue.

These symptoms are present during the last week of the luteal phase and remit within the first few days of menses and are absent during the week following menses. Women may begin to experience premenstrual syndrome symptoms at any time during their reproductive years.

It is estimated that between 85% to 97% of women of reproductive age experience some symptoms in the premenstrual phase of the cycle and about 30-40% of these women seeks help from their physician.

Most women can tell their period is experienced by mild physical and emotional changes in the luteal phase of menstrual cycle. In PMS, it is quite difficult to deal with symptoms. About 5% of women suffer from PMS in most unbearable form. Women suffer from PMS at a time in their lives when major changes are taking place in their hormone levels.

Several factors had identified as possible causes to the occurrence of PMS. Changes in hormone level and chemical changes in the brain are the major causes for PMS. PMS may be hereditary, although symptoms may be different from those which affect mother or sisters. Some women develop symptoms for the whole 2 weeks before menstruation begins. Others only suffer in the last few days. Many women find that symptoms get worse as they get closer to the start of their menstruation.

Women's Health (2000) [J5] states more than 80 treatments have been proposed for premenstrual syndrome. Many more have been tried for alleviating the symptoms of premenstrual syndrome but no treatment has been found to be consistently effective. Treatments include diuretics, prostaglandin inhibitors, vitamins lithium and antidepressants. It also includes life style measures that are non-pharmacological treatment for premenstrual syndrome like charting of symptoms daily, diet restriction (salt, Carbohydrate, caffeine, chocolate and alcohol), exercise stress management, yoga, progressive muscle relaxation, relationship skills, self help groups and education. Pharmacotherapy may be initiated only when simple behavioral measures have failed.

A survey of 220 women with self reported PMS in the US found that dietary supplements and relaxation exercise were the most frequently suggested treatment option followed by pain killers[N21].

One of the relaxation exercises which reduce premenstrual syndrome significantly is Jacobson progressive muscle relaxation exercise. It is a technique of stress and anxiety management technique developed by the American physician Edmund Jacobson in the early 1920s. Jacobson theorized that anxiety and stress lead to muscle tension, which in turn increases feelings of anxiety. When the body is in a relaxed state, there is little muscle tension, leading to decreased anxious feelings.

The basic idea of Jacobson progressive muscle relaxation exercise is to systematically tensing and relaxing group of muscles in sequence as Right hand and forearm, Right upper arm, Left hand and forearm, left upper arm, forehead, Eyes and

cheeks, Mouth and jaw, Shoulder and neck, Chest and back, Belly, Right thigh, Right calf, Right foot, Left thigh, Left calf, Left foot.

Progressive Muscle Relaxation is a way of calming physiological responses typically associated with tension and stress. It has been found that deep muscle relaxation could be achieved if the muscle is contracted prior to relaxing it.

Need For The Study

Most women who have reached the age of menstruating know what premenstrual syndrome is. Premenstrual syndrome is a disorder characterized by a set of hormonal changes that triggers disruptive symptoms in a significant number of women for up to two weeks prior to menstruation.

Premenstrual syndrome is more likely to trouble women in their 15s and 30s, and they tend to recur in a predictable pattern. The physical and emotional changes may be more or less intense with each menstrual cycle. PMS symptoms were markedly interferes with work or school or usual social activities and relationship with others.

Biomedical research alliance of New York (2000) [J7] stated that the women of child bearing age 40% have mild to moderate form of premenstrual syndrome and 10% have severe signs and symptoms. Regular premenstrual symptoms have been manifested in 27 million American women. Majority of them have a milder form of the disorder. 10% of them, 3 to 7 million women, have symptoms severe enough to disrupt the personal and professional lives. The principal premenstrual Syndrome

found was irritability, abdominal discomfort, nervousness, headache, fatigue and breast pain.

The National Women's Health Information Center suggests that in USA 30% to 40% women have some impairment of physical activity due to PMS. Approximately 1 in 6 or 15% or 40.8 million women's suffer from PMS.

ICD-10 criteria suggest in India approximately 159,760,591 women's of reproductive age have some form of premenstrual syndrome. 90% of women have experienced atleast one premenstrual syndrome.

Department of community medicine, New Delhi (2007) [N14] conducted a study to analyze the type and frequency of problems related to menstruation among 198 adolescent girls in the age group of 13-19 years. Results found that majority (35.9%) was in the age group of 13-15 years followed by 17-19 years, 15-17 years respectively. 63.1% had one or the other symptoms of Premenstrual syndrome, and other related problems were present in 55.1% of study subjects. Daily routine of 60% girls was affected due to prolonged bed rest, missed social activities, disturbed sleep and decreased appetite. 17.24% had to miss a class and 25% had to abstain from work.

Mathias. J (2007) conducted a quantitative research among B.Sc. Nursing students regarding the prevalence of premenstrual syndrome. The sample comprised of 300 female B.Sc nursing students between 17 to 25 years of age from selected nursing colleges in Mangalore. The findings revealed that majority (55%) were in the

age group of 20-22 years. The prevalence of premenstrual syndrome based on ICD-10 diagnostic criteria was stated to be 13.33%. Based on PMTS scale the majority (76%) of the samples had PMS as mild, 15% as moderate, 7% as severe and 2% of the subjects reported to have no symptoms. Results states that there was a significant association between the prevalence of PMS and variable like age and performing relaxation technique.

In a review of 27 studies researches concluded that relaxation therapies (including Jacobson's Progressive Muscle Relaxation, autogenic training, applied relaxation, meditation) were effective against psychological symptoms of physical disorders.

The nurse who is working in the field of maternity nursing, community health or mental health, has an important role in identifying the undiagnosed cases in the population and encourage such non pharmacological measures to help the client develop self care. Potential in controlling premenstrual syndrome, nurse midwife can very well plan and organize life style measures like yoga, exercise, and stress management, diet management for women who have minor and transient physiological and emotional changes associated with mild degrees of premenstrual syndrome.

Thus this study proposes to determine whether Jacobson Progressive Muscle Relaxation Exercise is beneficial in reducing premenstrual syndrome. If so, whether it can be incorporated as a regular Nursing care in the Gynecological practice.

Statement of the Problem

Effectiveness Of Jacobson Progressive Muscle Relaxation Exercise On Premenstrual Syndrome Among Adolescent Girls In Selected School At Coimbatore.

Objectives

- To evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls.
- To determine the association between Premenstrual Syndrome among adolescent girls with their selected demographic variables.

Hypotheses

H1 Jacobson Progressive Muscle Relaxation Exercise is effective in reducing Premenstrual Syndrome among adolescent girls.

H2 There is a significant association between the level of Premenstrual Syndrome among adolescent girls with their selected demographic variables.

Operational Definitions

Effectiveness

It refers to the outcome of Jacobson Progressive Muscle Relaxation Exercise in terms of reduction of Premenstrual Syndrome among school girls.

Premenstrual Syndrome

It is a group of physical and psychological symptoms linked to the menstrual cycle as measured by PMS scale.

Jacobson's Progressive Muscle Relaxation Exercise

Jacobson Progressive Muscle Relaxation Exercise is a muscle relaxation technique involving a systematic tensing and relaxing of muscles from head to toe.

Adolescent Girls

Girls who belongs to the age group of 13 - 19 years.

Assumptions

- The level of Premenstrual Syndrome of adolescent girls will vary from one to the other.
- Jacobson's Progressive Muscle Relaxation Exercise reduces the level of Premenstrual Syndrome.
- Jacobson's Progressive Muscle Relaxation Exercise has no adverse effects for Premenstrual Syndrome.
- Jacobson's Progressive Muscle Relaxation Exercise improves physical and mental wellbeing of adolescent girls with Premenstrual Syndrome

Delimitations

- The study is limited to adolescent school girls with mild to moderate degree of Premenstrual Syndrome.
- The study is limited to a period of 6 weeks

Projected Outcomes

- The study will help the nurses to assess the level of Premenstrual Syndrome among adolescent school girls.

- The study will help the nurses to identify the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on the level of Premenstrual Syndrome among adolescent school girls.
- The study findings will help the nurses to practice the exercise as an intervention for reducing Premenstrual Syndrome.

CHAPTER- II

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an important step in the development of any research project. It helps the researcher to analyze what is known about the topic and to describe methods of inquiry used in earlier work including the success and shortcomings. It gives a broad understanding of the problem. Keeping those aspects in mind, the researcher probed into available resources of document, information and studies related to Effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome.

Research literature were reviewed and organized under the following headings.

- Studies related to Premenstrual Syndrome.
- Studies related to Jacobson Progressive Muscle Relaxation Exercise.
- Studies related to Effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome.

Studies Related To Premenstrual Syndrome

Heinemann LA (2010) [N10] conducted a web based study in Germany among women aged 15-45 years to evaluate the effects of premenstrual disorders on work productivity and absenteeism. Work productivity and absenteeism were assessed using the Premenstrual Symptom screening tool and a modified version of the work productivity and activity impairment questionnaire. They stated that moderate to severe PMS seems to be associated with work productivity and impairment and increased absenteeism and thus poses a potential economic burden.

Ghanbari Z, et al., (2009) [N6]conducted a double-blind clinical trial in Iran among young female college students to evaluate the effect of calcium supplement therapy on PMS symptoms. The subjects were divided in two groups; one group received placebo and the other received 500 mg of calcium carbonate twice daily for 3 months. Results showed that calcium supplements reduces early fatigability, changes in appetite, depression in women with PMS.

Janita P. C. Chau, (2008)[N14] conducted an education program to evaluate and determine its efficacy in increasing knowledge and decreasing the symptoms of premenstrual syndrome among 94 school girls aged between 14 and 18 years in Hong Kong. Three months following the education program schoolgirls in the experimental group reported having a significant reduction in total PMS scores. No significant differences were found for the control group on pre test and post test PMS scores suggesting that the education programme could have been the source of the reduction in PMS symptoms of the experimental group of young adolescent girls.

Ozgoli G (2008) [N26] conducted a single-blind, randomized, placebo controlled trial among 90 students with PMS, living in dormitories of a medical university in Tehran to determine the effect of Ginkgo biloba L on the symptoms of PMS. The students filled out the daily symptom rating forms in two consecutive menstrual cycles. After verification the students were randomly assigned to experiment and placebo groups and took G.biloba L tablets (containing 40 mg leaf extracts) or placebo 3 times a day from the 16th day of the menstrual cycle to the 5th day of the next cycle. Study concluded that Ginkgo biloba L can reduce the severity of PMS symptoms.

Whelan AM, Jurgens TM (2008) [N6] conducted a comprehensive data based randomized controlled trial to identify herbs vitamins and minerals advocated for the treatment of PMS and to determine their efficacy in reducing severity of PMS. Sixty two herbs, vitamins and minerals were identified. Data supports the use of calcium for PMS, and suggests that chasteberry and vitamin B6 may be effective. They concluded that only calcium had good quality evidence to support its use in PMS.

Priya (2008) conducted an experimental study in Coimbatore to determine the effectiveness of selected yogasanas in the reduction of anxiety and PMS among 60 nursing students. Study concluded that after giving 60 days of yogasanas majority of them had mild level of anxiety and PMS. This shows that the selected yogasanas are effective in reducing anxiety and PMS.

Canning S Waterman M (2007) [N6] conducted a randomized, double – blind, placebo controlled, crossover study among 36 UK women aged 18-45 years with regular menstrual cycle to investigate the effectiveness of Hypericum Perforatum on symptoms of PMS. Results stated that Hypericum Perforatum was statistically superior to placebo in improving physical and behavioral symptoms of PMS.

T. Takeda, K. Tasaka(2006) [N21] conducted a study to investigate the prevalence and impact of premenstrual symptoms among 1187 Japanese women using premenstrual symptoms questionnaire. Results suggested that 95% of these women were found to suffer from premenstrual symptoms. The rates of prevalence of moderate to severe PMS in Japanese women were 5.3 and 1.2% respectively.

Choi D et al (2004) [N10] conducted a population based online survey in 1000 Korean women aged 15-49 years to evaluate the impact of premenstrual symptoms on activities of daily life revealed that among 23 documented symptoms the most predominant symptoms were joint-muscle-back pain. PMS occur frequently and have a significant impact on daily life. However they have little knowledge about PMS and only infrequently consult their physicians.

Orhan Derman et al., (2003) [N13] conducted an experimental study to investigate the frequency of premenstrual syndrome associated symptoms and effects of nutrition on PMS among 171 adolescent girls stated that 105 out of 171 met DSM-IV criteria for PMS. There was an association between dysmenorrhoea and PMS in 60 subjects. Half of the girls 52 had mild, 39 had moderate and 14 had severe PMS. They also found that PMS is associated with dietary habits.

Silva CM et al (2003) [N29] conducted a cross sectional population based study among 1,395 women aged 15-49 years in Brazil to assess the prevalence of premenstrual syndrome and the factors associated with this. The obtained prevalence was 25.2%. The principal premenstrual symptom found were irritability, abdominal discomfort, nervousness, headache, fatigue and breastpain higher risk was presented by women of higher socioeconomic level, better schooling level, aged under 30 years and with white skin colour.

T.Lane, A. Francis, (2003) [N23] conducted a survey in Australia to investigate the relationships between premenstrual symptomatology, anxiety and depression in women with normal menstrual cycles. 69 females were participated in this study. It

concluded that an external control may be associated with a susceptibility to depression or anxiety when certain premenstrual changes are experienced.

Cleckner SmithC.S. et.al. (2003) [J3] conducted a survey study in Chicago among 75 adolescent girls to analyze the prevalence and severity of premenstrual symptoms and compare premenstrual symptom clusters of younger and older adolescents. It revealed that all participants reported atleast one premenstrual symptom of minimal severity. The symptoms most commonly reported were food cravings, breast swelling, abdominal discomfort, mood swings, stressed feeling, and dissatisfaction with appearance. The younger teens had significantly less intense symptoms than the older teens.

Yang M, (2007) [N11] conducted an online survey study in USA to link the Premenstrual Symptoms Impact Survey (PMSIS) to health related quality of life (HRQOL) and sexual drive impact associated with PMS among 949 women. Study concluded that the higher the PMSIS score level the greater the percentage of women reported functional limitations. Significantly more women with PMS reported sexual drive impact than in women with no PMS.

Dennerstein L, Lehert P, (2001) [N17] conducted a cross sectional survey in Australia among 4085 women aged 14-49 years to determine women's experiences of premenstrual symptoms revealed that most prevalent symptoms were abdominal bloating, cramps or abdominal pain breast tenderness, irritability and mood swings. Severity of symptoms is directly proportional to duration.

Petta et al (2000) [N19] conducted an exploratory study in 6 major cities ofBrazil to describe the perspectives and attitudes toward Premenstrual Syndrome among 1053 women aged 18-40 years concluded that PMS was reported by a large number of women. The psychological and physical symptoms most frequently mentioned were nervousness/anxiety, mood swings/crying, pain, swelling, tenderness of the breast and cramps. Actions need to be taken to provide more effectively the specific information required by both lay people and health care professionals.

Studies Related To Jacobson Progressive Muscle Relaxation Exercise

Somayeh Ghafari et.al., (2009) [N22] were conducted a quasi experimental study in Iran to identify the effects of applying Progressive Muscle Relaxation Technique on quality of life among 66 patients with multiple sclerosis. The study concluded that Progressive Muscle Relaxation Technique is practically feasible and is associated with increase of life quality of multiple sclerosis patients.

Sermsak Lolak,et.al.,(2008) [N2] were conducted a prospective, randomized controlled trial among 83 chronic breathing disorder patients receiving pulmonary rehabilitation(PR) to evaluate the effect of progressive muscle relaxation (PMR) training on anxiety and depression for a period of 8 weeks. They concluded that pulmonary rehabilitation is effective in reducing anxiety and depressive level in chronic lung patients.

Gian Mauro Manzoni, Francesco Pagnini (2007) [N24] had done a quantitative Meta analysis to evaluate the efficacy of relaxation training for anxiety problems and disorders. 27 studies are selected for the inclusion in the Meta analysis. The result

shows that consistent and significant efficacy of relaxation training in reducing anxiety.

C.H. Stenstorm et. al., (2006) [J8] conducted a comparative study to evaluate the effects of a dynamic training program versus a muscle relaxation training program as home exercise among 54 patients with inflammatory rheumatic diseases. Results of the study indicated that progressive muscle relaxation training might improve health related quality of life, reduce joint tenderness and be superior to dynamic muscle training in improving the muscle function of the lower extremities.

Maggie Yuen Fung To and Sally Chan (2004) [J12] in Hong Kong conducted a study to evaluate the effectiveness of muscle relaxation training in reducing aggressive behavior in mentally handicapped patients (MHPs). A pretest and posttest study design was used. Findings showed that there was a reduction of 14.7% of aggressive behavior in the subjects after the muscle relaxation training. Muscle relaxation training appeared to be effective in reducing the frequency of some aggressive behaviors.

Laura A Pawlow, Gary E Jones, (2002) [N16] conducted a study in USA to examine whether acute relaxation training reduces subjective and physiological indices of stress among 46 subjects. Results indicated that a brief relaxation exercise significantly lowers the level of post intervention heart rate, state anxiety, and perceived anxiety.

Studies Related To Effectiveness Of Jacobson Progressive Muscle Relaxation Exercise On Premenstrual Syndrome.

Lindse Mary L, Tamilmani.R (2009) [J6] conducted an quasi experimental study in Tirunelveli to evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on PMS among 30 college girls .Intervention through a video CD was administered for 4 weeks. Study concluded that Jacobson Progressive Muscle Relaxation Exercise was effective in the reduction of premenstrual syndrome and it can be used as supportive therapy for premenstrual syndrome.

Dvivedi J Kaur H (2007) [N4] conducted an experimental study in Dehradun to evaluate the effect of 1 week relaxation training on cold pressor test induced stress in premenstrual syndrome among 50 clinically healthy women who were in their reproductive age group. Results suggest a reduction in sympathetic activity by Progressive Relaxation training and it can be used as an effective relaxation tool during premenstrual stress.

Hye sook Jang et al(2005) [N1] conducted a study to evaluate the effects of relaxation therapy on pain and other symptoms in women with premenstrual syndrome among 46 college students. Results suggest that therapy had a significant effect on pain and water retention. In addition there were significant short term effects on pain, mental depression, and anxiety. These result stated that relaxation therapy might be useful as a nursing intervention for premenstrual syndrome.

Clare Stevingston (2003) [J2] conducted a single-blind, sham-controlled randomized controlled trail study to evaluate the effectiveness of progressive muscle

relaxation training on premenstrual syndrome. It revealed that greater improvements in physical symptoms compared with the control interventions of reading and charting symptoms. For women with severe symptomology, relaxation also had superior effects on emotional symptoms. Several intervention and case-control studies suggest it has potential for alleviating premenstrual symptoms.

Goodale IL et.al., conducted a comparison study to examine the effects of the relaxation response on premenstrual syndrome among 46 women in Bosto. It revealed that women with severe symptoms in the relaxation response group showed more improvement compared with the improvement for the reading and charting group. The study concluded that regular elicitation of the relaxation response is an effective treatment for physical and emotional premenstrual symptoms and is most effective in women with severe symptoms.

CONCEPTUAL FRAMEWORK

MODIFIED ORLANDO'S NURSING PROCESS MODEL

Tabot (1995) stated that conceptual framework is a network of interrelated changes that provide a structure for organizing and describing the phenomenon of intersect. Research studies are based on the theoretical or conceptual framework that facilitates visualizing the problem and places the variables in a logical context.

The present study aims at evaluating Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent school girls. Conceptual frame work of the present study is based on Orlando's Nursing Process Model.

The nursing process is used to diagnose and treat human responses to health and illness. (American Nurses Association, 1980) [B13]. The nursing process provides a creative, organized structure and framework for the delivery of nursing care, yet it is flexible enough to be used in all settings.

Nursing process includes five steps: Assessment, Diagnosis, Planning, Implementation, and Evaluation.

Assessment:

The systematic collection, verification, analysis and communication of data about a client. The collected data are in descriptive, concise and complete form. The nurse obtains two types of data, subjective and objective. Subjective data are client's perception about their health problem. Objective data are observations or measurements made by the data collector.

The data are obtained from the client, family, significant others, health care team members, health records, physical examination and results of diagnostic and laboratory tests. In this study the researcher collects subjective data by using Modified Stainer and Wilkins PMS Diagnostic criteria and assesses the level of Premenstrual Syndrome.

Diagnosis:

Nursing diagnosis is a clinical judgment about individual, family, or community responses to actual or potential health problems or life processes. It is a process of using the data gathered about a client to logically explain a clinical judgment, in this case making a nursing diagnosis.

Here the researcher diagnosed based on the pre test PMS score level. Those who scored between 1-30 belonged to the category of mild symptoms those who scored between 31-60 belonged to moderate symptoms and 61-90 severe symptoms.

Planning:

Setting goals to improve the outcome is a primary focus of the nursing process. Goals provide direction for individualized nursing interventions and sets standards of determining the effectiveness of the interventions.

The goal of the present study was to reduce the premenstrual syndrome. Here the researcher planned to provide Jacobson Progressive Muscle Relaxation Exercise to adolescent girls with Premenstrual syndrome for a period of one menstrual cycle and the setting was KPM Matriculation Higher Secondary School, Coimbatore.

Implementation:

Implementation describes a category of nursing behaviors in which the actions necessary for achieving the goals and expected outcomes of nursing care are initiated and completed. It is a continuous process and interacts with the other components of the nursing process.

Intervention is any action taken by the nurse to help the client move from a present health state to the health state described in the expected outcome.

In this study the intervention was given in the form of Jacobson Progressive Muscle Relaxation Exercise for 15-20 minutes once a day for 30 days.

Evaluation:

The evaluation step of the nursing process measures the client's response to nursing actions and the client's progress toward achieving goals. It is an ongoing process; evaluation involves not only analyzing the success or failure of the current goals and interventions, but examining the need for adjustments and changes as well.

Post test assessment was done by using modified Stainer and Wilkins PMS scale the symptoms were reduced by means of effective nursing intervention.

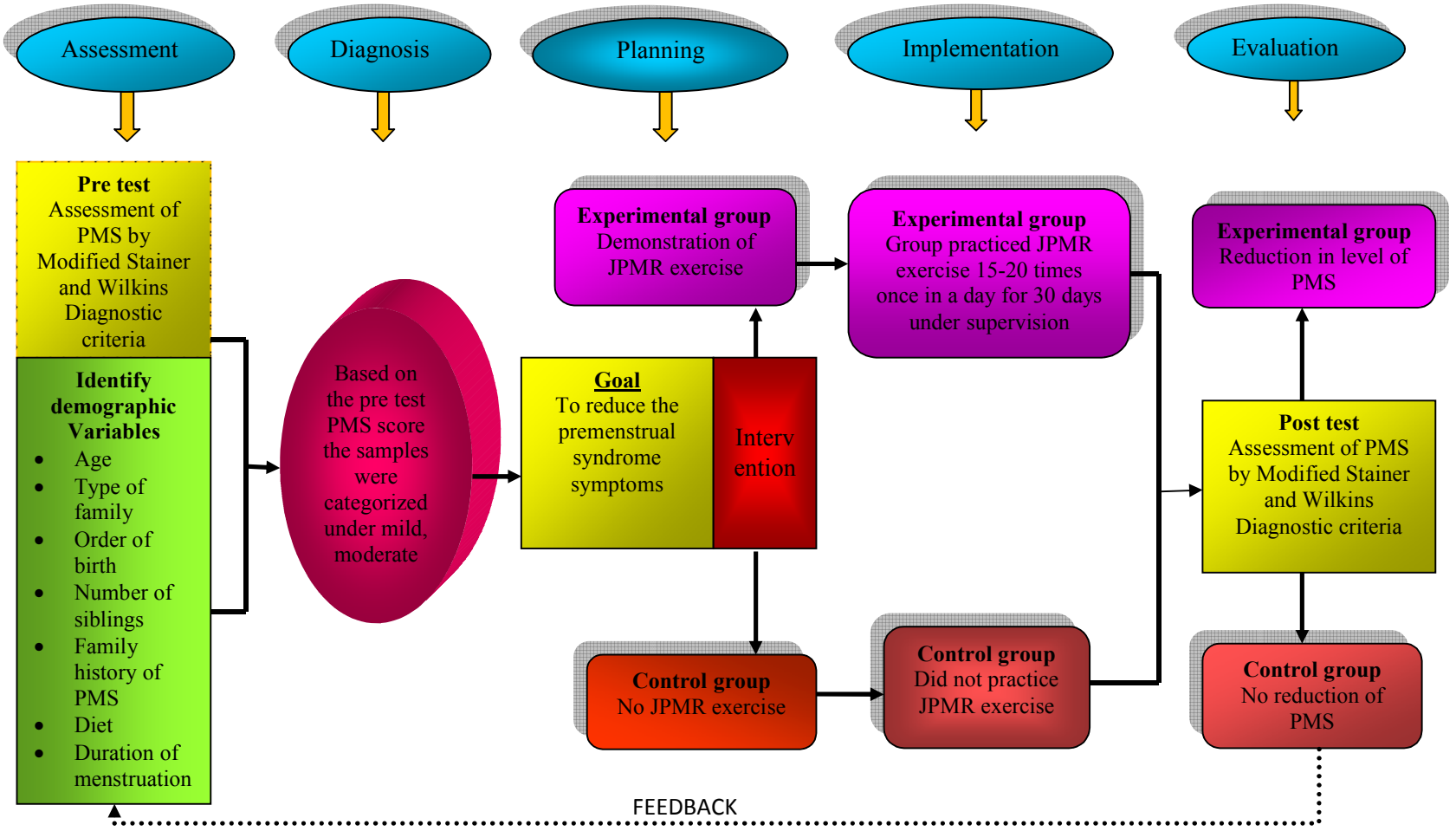


Figure: 1 Conceptual Framework based on Modified Orlando's Nursing Process Model

CHAPTER- III

METHODOLOGY

CHAPTER III

METHODOLOGY

Research Methodology is one of the vital sections of a research proposal, since the success of any research mostly depends upon the methodological issues that are followed in the execution of the research work. The role of methodology consists of procedures and technique for concluding the study.

According to Polit and Hungler. (2001)[B12] research methodology refers to the research ways of obtaining, organizing and analyzing data.

This chapter deals with the methodological approach adopted for the study. It includes description of Research approach, population, and sample, criteria for sample selection, sampling technique, development of the instrument, scoring procedure, pilot study, data collection procedure, plan for data analysis and protection of human rights.

Research Approach

A Quantitative approach was used to evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome.

Research Design

Nancy Burns, Susan. K. Groove (2005) [B10] defined research design as a blue print for conducting the study that maximizes control over factors that could interfere with the validity of the findings. The research design guides the researcher in

planning and implementing the study in a way that is most likely to achieve the intended goal.

A quasi experimental pretest post test design with control group was chosen to evaluate the effect of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls.

The diagrammatic representation of research design is given below

Group	Pre test	Intervention	Post test
	Day – 1	Day – 2-29	Day – 30
Experimental	X	O	X_1
Control	Y	***	Y_1

Key

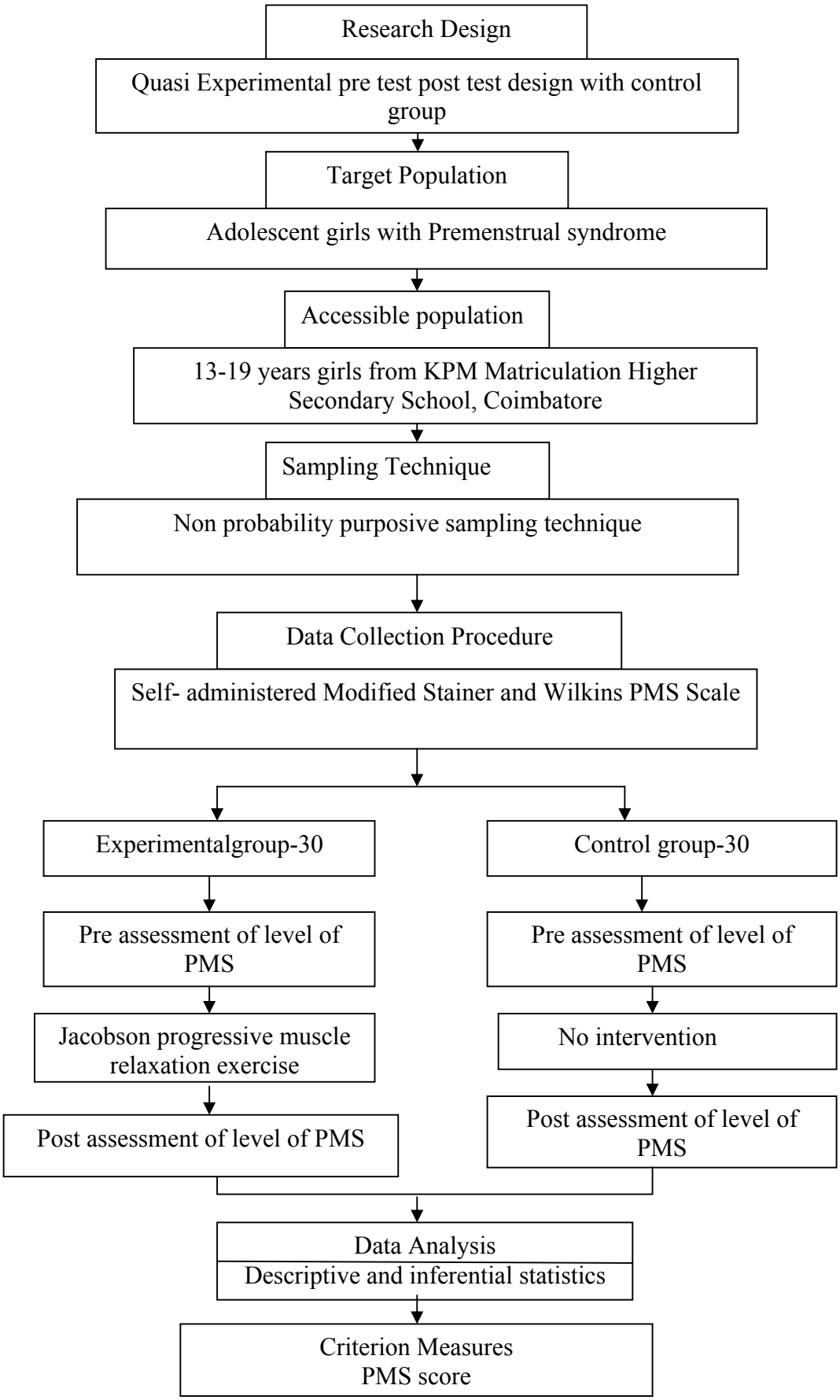
X, Y = Assessment of level of Premenstrual Syndrome (pre-test).

O = Intervention of Jacobson Progressive Muscle Relaxation Exercise

*** = No intervention.

X_1, Y_1 = Assessment of level of Premenstrual Syndrome (post test).

(X_1-X) = Effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome.


Research Design
Quasi Experimental pre test post test design with control group
Target Population
Adolescent girls with Premenstrual syndrome
Accessible population
13-19 years girls from KPM Matriculation Higher Secondary School, Coimbatore
Sampling Technique
Non probability purposive sampling technique
Data Collection Procedure
Self- administered Modified Stainer and Wilkins PMS Scale
Experimentalgroup-30
Control group-30
Pre assessment of level of PMS
Pre assessment of level of PMS
Jacobson progressive muscle relaxation exercise
No intervention
Post assessment of level of PMS
Post assessment of level of PMS
Data Analysis
Descriptive and inferential statistics
Criterion Measures
PMS score

Variables

Dependent Variable	:	Premenstrual syndrome.
Independent Variable	:	Jacobson Progressive Muscle Relaxation Exercise
Extraneous Variables	:	Age, Type Of Family, Order Of Birth, Number Of Siblings, Family History Of Premenstrual Syndrome, Diet, Duration Of Menstruation.

Setting of the Study

Polit and Hungler (2004) stated that physical location and conditions in which data collection takes place in a study is the setting of the study. The study was conducted in KPM Matriculation Higher Secondary School at Coimbatore. This school is situated at a distance of 5 kms from Annai Meenakhi College of Nursing. It accommodates 1250 students among that 400 students are belongs to the age group of 13 - 19 years.

Population

According to Polit and Hungler (2005) [B12] "a population is the entire aggregation of causes in which a researcher is interested".

Target population

The target population is the aggregation of cases which the researcher would like to make generalizations.

The target population in this study was adolescent girls with Premenstrual syndrome.

Accessible population

An accessible population is the section of the target population to which the researcher has reasonable access. Accessible population for this study included 13-19 years girls of KPM Matriculation Higher Secondary School, at Coimbatore.

Sample size

Polit and Hungers (1995) [B12] states that a sample consists of a subset of population selected to participate in a research study. The sample selected for this study was 60, among that 30 for experimental and 30 for control group in KPM Matriculation Higher Secondary School, at Coimbatore.

Criteria for sample selection

Inclusion criteria

- Adolescent girls with mild to moderate degree of pre menstrual syndrome.
- School girls with history of regular menstrual cycle.
- Girls who are likely to have their menstrual period due within one week of pre test.
- Those adolescent school girls who are willing to participate.

Exclusion criteria

- Girls with severe degree of premenstrual syndrome.

- Girls with muscle spasm and injuries, fracture.
- Girls with gynaecological complication like septate uterus, polycystic ovary
- Girls who takes any remedies for premenstrual syndrome.

Sampling Technique

According to Polit and Hungler (2005) sampling technique is the process of selecting a portion of the population to represent the entire population. The samples were selected for this study by adopting non-probability purposive sampling technique which means selection of the most readily available persons as participants in the study. Samples were selected based on the inclusion and exclusion criteria 30 for experimental group and 30 for control group.

Development Of The Instrument

Treece and Treece (1986) emphasized that the instrument selected in research should as far as possible be the vehicle that could best obtain data for drawing conclusion, pertinent to the study.

The research instrument was developed based on Stainer and Wilkins PMS Diagnostic criteria .It was developed in English after an extensive review of literature and experts opinion. It was translated in Tamil by a language expert. The modified PMS scale was used to assess the level of premenstrual syndrome.

Description Of The Instrument

The instrument consisted of three parts.

Part I : Consisted of demographic variables of adolescent girls with , premenstrual syndrome (Age, Type Of Family, Order Of Birth, Number Of Siblings, Family History Of Premenstrual Syndrome, Diet, Duration Of Menstruation)

Part II : Consisted of Modified Stainer and Wilkins PMS Diagnostic criteria

Scoring Procedure

Regarding the questionnaire on PMS Diagnostic criteria each question had two categories. No symptom carries '0' marks yes option is again divided into mild, moderate, and severe symptoms the scores are respectively 1, 2, and 3

Level of symptoms

1-30 - mild

31-60 - moderate

61-90 -severe

Validity and Reliability

Content validity of the Tool

According to Nancy Burns (1999) validity is the determination of the extent to which an instrument actually reflects the abstract construct being examined. The contents of the modified PMS scale were checked and evaluated by seven experts. The experts were two doctors specialized in obstetrics and gynecology and five nursing experts specialized in maternity nursing.

Reliability

According to Nancy Burns (1999) [B10] Reliability is extended to which an instrument consistently measures the concept of interest. PMS Diagnostic Criteria was found by Stainer and Wilkins, in the year 1996.

The reliability co-efficient was calculated by split half method. Co-efficient correlation score was 0.89 and was found to be highly reliable.

Pilot Study

Polit and beck (2004) [B11] denotes that pilot study is small scale version, or trial run, done in preparation for a major study. The researcher conducted Pilot study among '6' adolescent girls in Shri Meenakshi Higher Secondary School at Coimbatore. The purpose was to find out the feasibility of the study. The subjects for the pilot study possessed the same characteristics as that of the sample for the final study. The results of the pilot study indicated that Jacobson Progressive Muscle Relaxation Exercise was effective in reducing Premenstrual Syndrome.

Data Collection Procedure

A prior formal permission was obtained from the Correspondent, Principal, and the faculty of KPM Matriculation Higher Secondary School, Coimbatore. The study was conducted for a period of 6 weeks.13-19years adolescent girls of the selected school was assessed for pre menstrual syndrome. The girls with pre menstrual syndrome were assigned alternatively to the experimental and control group. The samples were explained about the purpose of the study and written consent was obtained and assured of confidentiality of the data collected.

On the first day demographic data was collected. The experimental group received Jacobson Progressive Muscle Relaxation Exercise was provided for 15-20 minutes once in a day for 30 days. On the day 30 post test assessment of level of premenstrual syndrome was done by using Modified Stainer and Wilkins PMS Diagnostic criteria.

Plan for Data Analysis

The demographic variables were organized by using descriptive statistics (frequency and percentage). The effect of relaxation exercise on the reduction of premenstrual syndrome was analyzed by using mean, standard deviation, paired‘t ’ test. Association between the level of premenstrual syndrome and the selected demographic variables (Age, Type of family, Order of birth, Number of siblings, Family history of premenstrual syndrome, Diet, Duration of menstruation) were assessed by chi square.

Protection of Human Rights

The study was conducted after the approval of research committee of the college. The nature and purpose of the study was explained to the higher authorities of the selected schools. The oral informed consent was obtained from the study participants to gain full co-operation. Assurance was given to the study samples that the anonymity of each individual would be maintained strictly.

CHAPTER -IV

DATA ANALYSIS AND INTERPRETATION

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the collected data regarding the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls. The purpose of the analysis was to reduce the data to an intelligible and interpretable form so that the relation of the research problem can be studied and tested.

Polit & Beck, (2003) has noted that data analysis as the systematic organization, synthesis of research data and testing of research hypothesis using those data.The analysis and interpretation of this study is based on the data collected through questionnaire method among adolescent girls with Premenstrual Syndrome. The study findings are presented in sections as follows:

Section I	:	Data on demographic variables of adolescent girls with Premenstrual Syndrome
Section II	:	Data on level of Premenstrual syndrome among adolescent girls.
Section III	:	Data on effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls.
Section IV	:	Data on association between the level of Premenstrual Syndrome among adolescent girls with their selected demographic variables.

SECTION I: DATA ON DEMOGRAPHIC VARIABLES OF ADOLESCENT GIRLS WITH PREMENSTRUAL SYNDROME

Table 1

Frequency And Percentage Distribution of Demographic Variables Of adolescent girls with Premenstrual Syndrome in Experimental And Control Group

N=60

S. No	Demographic variables	Experimental group		Control group		Total	
		n	%	n	%	N	%
1.	Age in Years						
	a) 13-14	24	80	24	80	48	80
	b) 15-16	6	20	6	20	12	20
	c) 17-19	0	0	0	0	0	0
2.	Type of family						
	a) Nuclear	28	93.3	28	93.3	56	93.3
	b) Joint	2	6.7	2	6.7	4	6.7
3.	Order of birth						
	a) First	17	56.7	15	50	32	53.3
	b) Middle	6	20	4	13.3	10	16.7
	c) Last	7	23.3	11	36.7	18	30

Contd…

S No	Demographic variables	Experimental group		Control group		Total	
		n	%	n	%	N	%
4.	Number of siblings in family						
	a) No siblings	4	13.3	1	3.3	5	8.3
	b) 1-2	22	73.3	24	80	46	76.7
	c) More than 2	4	13.3	5	16.7	9	15
5.	Family history of PMS						
	a) Present	22	73.3	23	76.7	45	75
	b) Not present	8	26.7	7	23.3	15	25
6.	Food preferences during PMS						
	a) Vegetarian	20	66.7	22	73.3	42	70
	b) Non vegetarian	10	33.3	8	26.7	18	30
7.	Duration of menstruation						
	a) 1-3 days	4	13.3	5	16.7	9	15
	b) 4-5 days	15	50	13	43.3	28	46.7
	c) 6-7 days	11	36.7	12	40	23	38.3

Table: 1 reveals the demographic variables of adolescent girls with premenstrual syndrome in experimental and control group.

Regarding Age in experimental group, 24(80%) belonged to 13-14 years, 6 (20%) belonged to 15-16 years and none of them belonged to 17-19 years. In control

group, 24(80%) belonged to 13-14 years, 6 (20%) belonged to 15-16 years and none of them belonged to 17-19 years.

Regarding Type of family in experimental group, 28 (93.3%) belonged to nuclear family, 2 (6.7%) belonged to joint family. In control group, 28 (93.3%) belonged to nuclear family, 2 (6.7%) belonged to joint family.

Regarding Order of birth in experimental group, 17 (56.7%) were born first, 6(20%) were born middle and 7(23.3%) were born in last. In control group, 15 (50%) were born first, 4(13.3%) were born middle and 11(36.7%) were born in last.

Regarding Number of siblings in family in experimental group, 4(13.3%) had no sibling, 22 (73.3%) had 1-2 siblings, 4(13.3%) had more than 2 siblings. In control group, 1(3.3%) had no sibling and 24(80%) had 1-2 siblings, 5(16.7%) had more than 2 siblings.

Regarding Family history of Premenstrual Syndrome in experimental group, 22 (73.3%) had family history of Premenstrual Syndrome, 8(26.7%) had no family history of premenstrual syndrome. In control group, 23 (76.7%) had family history of Premenstrual Syndrome, 7 (23.3%) had no family history of premenstrual syndrome.

Regarding Food preferences during premenstrual syndrome in experimental group 20(66.7%) were prefers vegetarian diet, 10(33.3%) were prefers non vegetarian diet. In control group 22(73.3%) were prefers vegetarian diet, 8(26.7%) were prefers non vegetarian diet.

Regarding Duration of Menstruation in experimental group 4(13.3%) had 1-3 days duration, 15(50%) had 4-5 days duration, and 11(36.7%) had 6-7 days of duration. In control group 5(16.7%) had 1-3 days duration, 13(43.3%) had 4-5 days duration, and 12(40%) had 6-7 days of duration.

SECTION II: DATA ON LEVEL OF PREMENSTRUAL SYNDROME AMONG ADOLESCENT GIRLS.

Table 2.1

Frequency And Percentage Distribution Of Level Of Premenstrual Syndrome Among Adolescent Girls In Experimental Group.

n=30

S. No	Level of premenstrual syndrome	Experimental group			
		Pre test		Post test	
		n	%	n	%
1.	Mild	11	36.7	30	100
2.	Moderate	19	63.3	0	0
.					

Table 2.1 reveals the level of premenstrual syndrome among adolescent girls in experimental group.

In pre test 11(36.7%) had mild level of premenstrual syndrome, 19(63.3%) had moderate level of premenstrual syndrome. In post test none of them had

moderate level of premenstrual syndrome, 30 (100%) had mild level of premenstrual syndrome.

It was inferred that the intervention Jacobson progressive muscle relaxation exercise was effective in reducing premenstrual syndrome among adolescent girls.

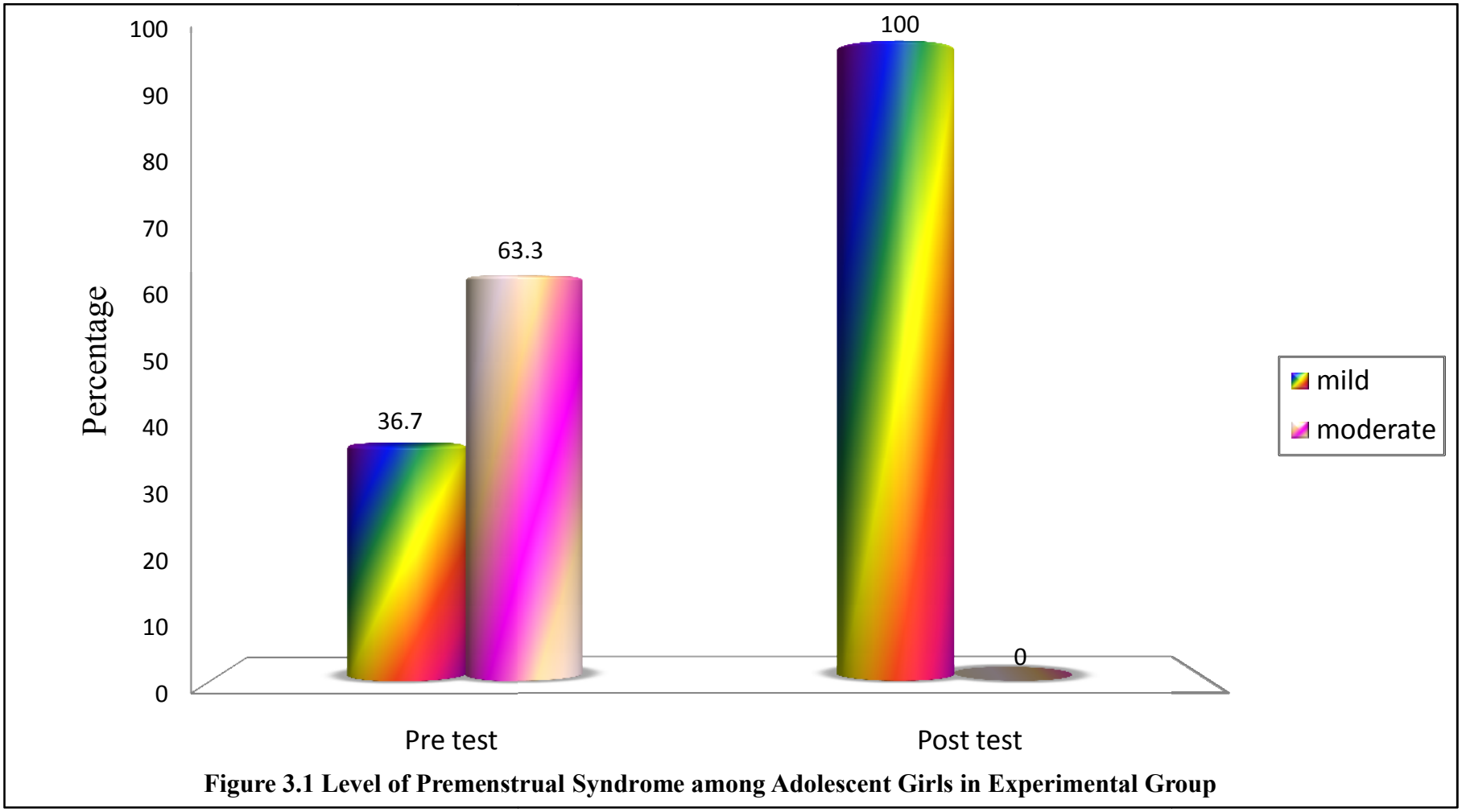


Figure 3.1 Level of Premenstrual Syndrome among Adolescent Girls in Experimental Group

Table 2.2

Frequency And Percentage Distribution Of Level Of Premenstrual Syndrome Among Adolescent Girls In Control Group.

n=30

S.No	Level of premenstrual syndrome	Control group			
		Pre test		Post test	
		n	%	n	%
1.	Mild	11	36.7	10	33.3
2	Moderate	19	63.3	20	66.7

Table 2.2 reveals the level of premenstrual syndrome among adolescent girls in control group.

In pre test 11(36.7%) had mild level of premenstrual syndrome, 19(63.3%) had moderate level of premenstrual syndrome.

In post test 10 (33.3%) had mild level of premenstrual syndrome, 20 (66.7%) had moderate level of premenstrual syndrome.

It was inferred that there was no difference between pre test and post test among adolescent girls with premenstrual syndrome in the control group.

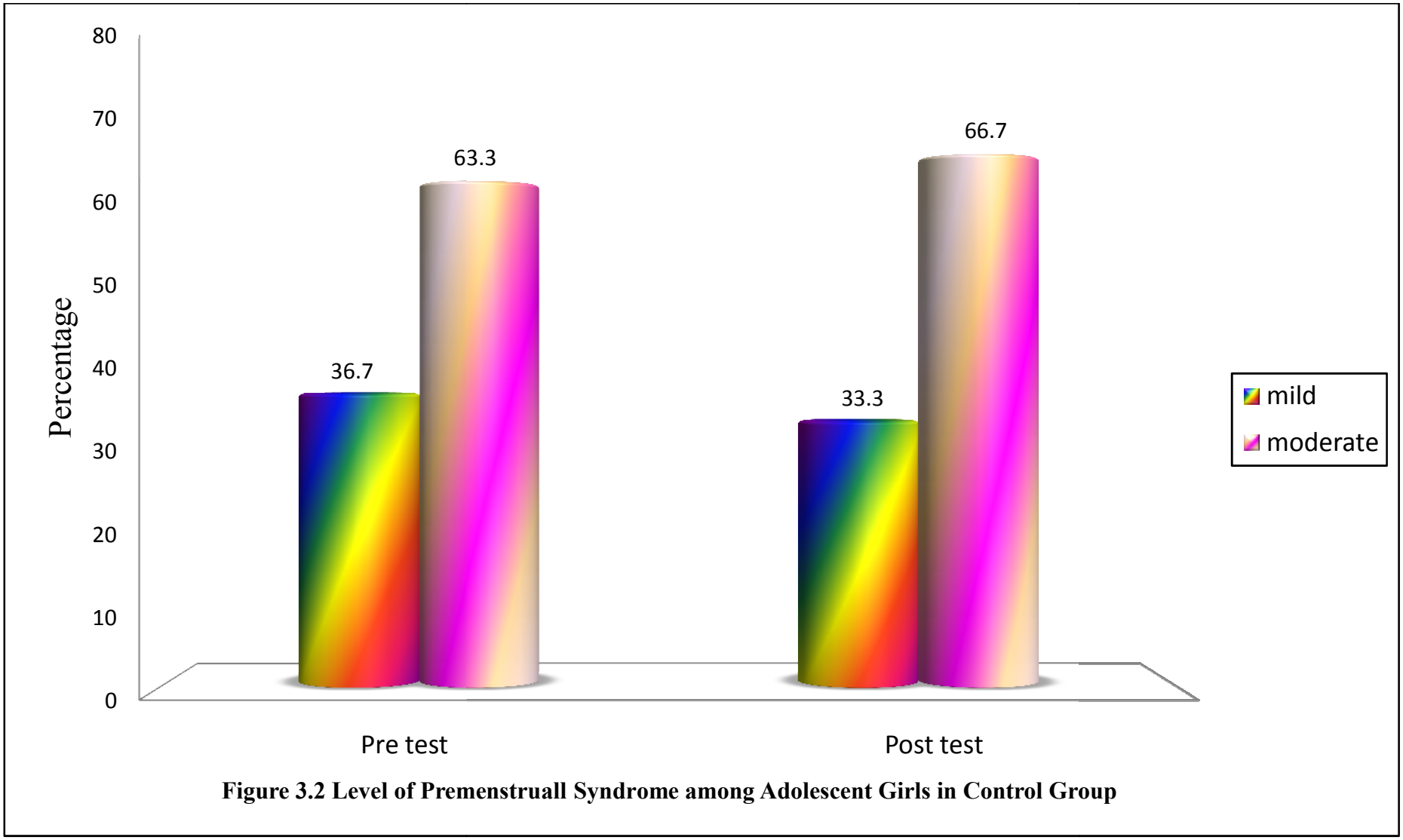


Figure 3.2 Level of Premenstruall Syndrome among Adolescent Girls in Control Group

SECTION III: DATA ON EFFECTIVENESS OF JACOBSON PROGRESSIVE MUSCLE RELAXATION EXERCISE ON PREMENSTRUAL SYNDROME AMONG ADOLESCENT GIRLS.

Table 3.1

Mean, Standard Deviation, Mean Difference And Paired 't' test Value Of Level Of Premenstrual Syndrome In Experimental And Control Group

N=60

S.No	Group	Mean	Standard Deviation	Mean difference	t value
1.	Experimental group				
	Pre test	35.87	10.35	24.34	17.13***
	Post test	11.53	4.04		
2.	Control group				
	Pre test	35.33	10.32	0.6	1.75 NS
	Post test	34.73	9.72		

***- Significant at p< 0.001 level, NS- Not significant

Table 3.1 reveals that in experimental group during pre test the mean value was 35.87 and the standard deviation was 10.35. During post test the mean value was

11.53 and the standard deviation was 4.04 and the obtained t value was 17.13 which is found to be significant at $p<0.001$ level.

In control group during pre test the mean value was 35.33 and the standard deviation was 10.32. During post test the mean value was 34.73 and the standard deviation was 9.72 and the obtained t value was 1.75 which was not significant at $p<0.001$ level.

It was inferred that the intervention Jacobson progressive muscle relaxation exercise was effective in reducing premenstrual syndrome among adolescent girls in experimental group.

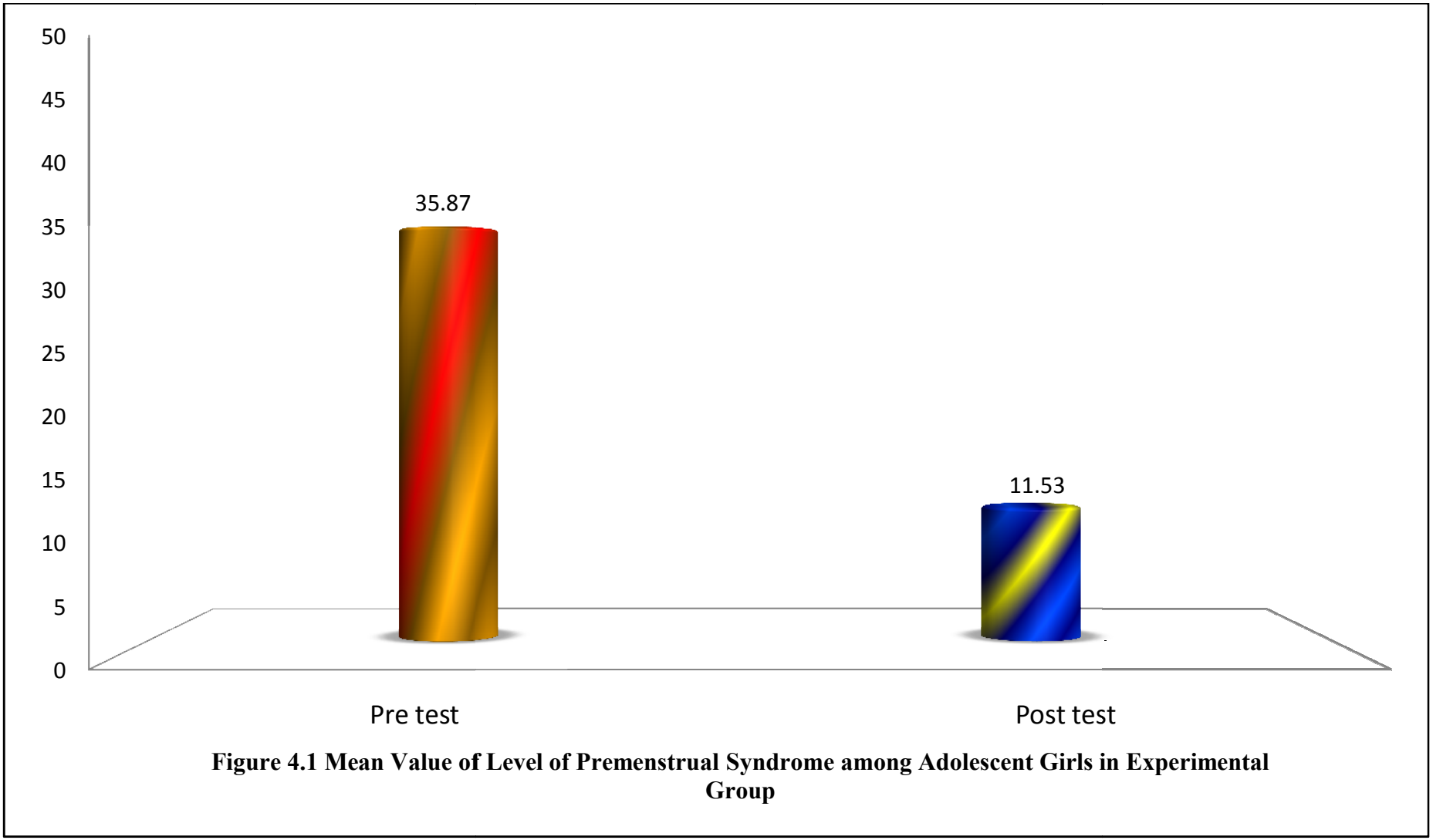


Figure 4.1 Mean Value of Level of Premenstrual Syndrome among Adolescent Girls in Experimental Group

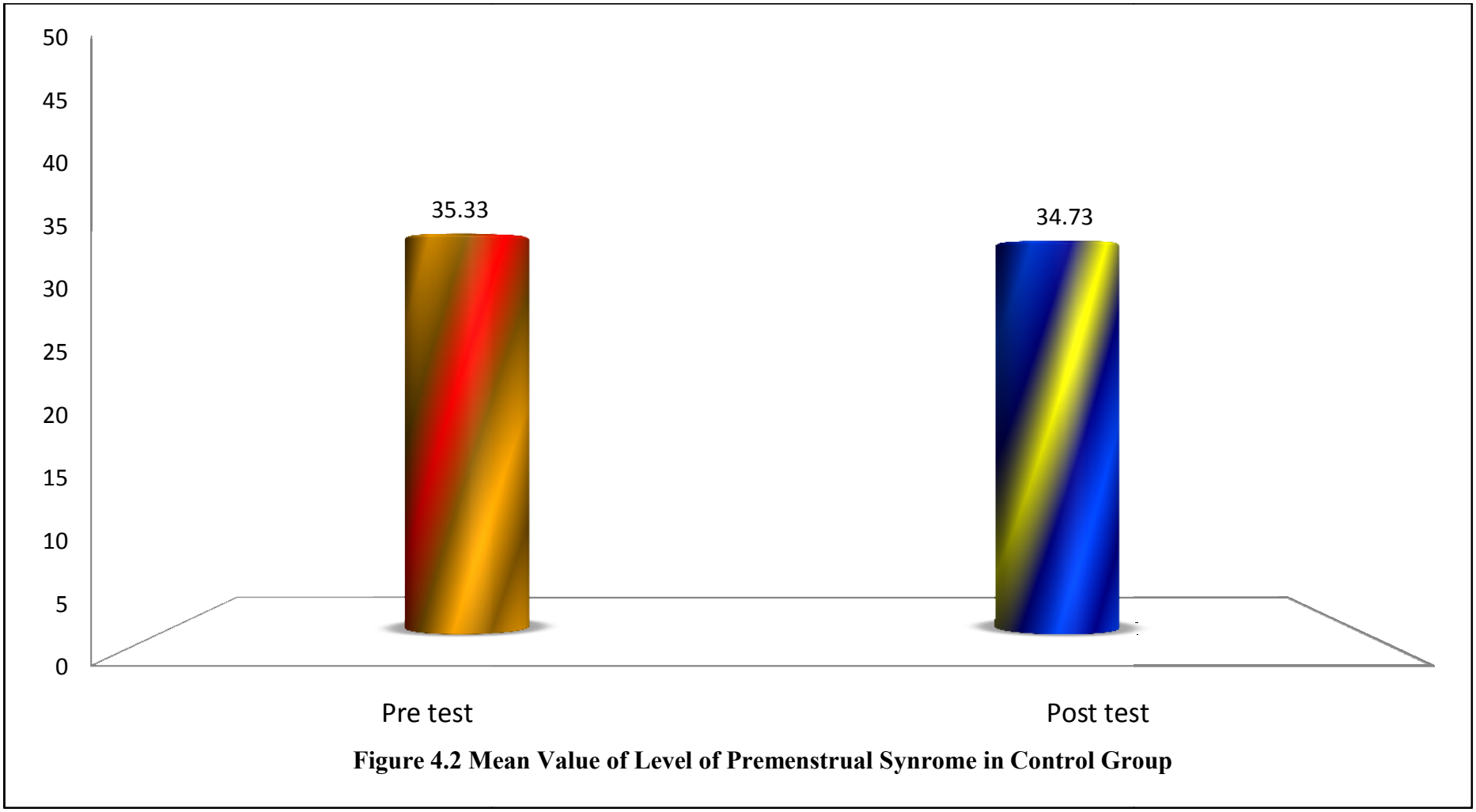


Figure 4.2 Mean Value of Level of Premenstrual Synrome in Control Group

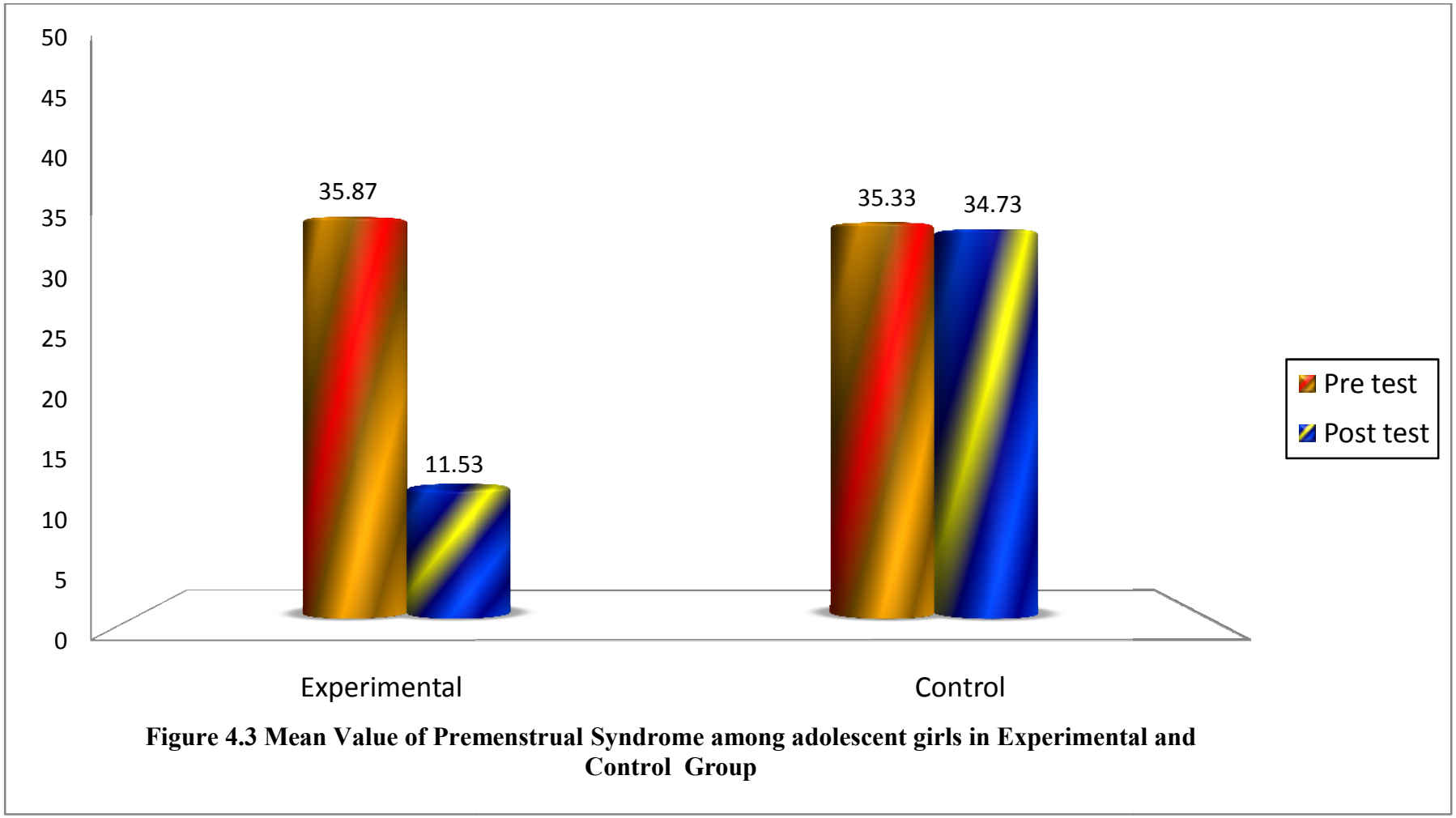


Figure 4.3 Mean Value of Premenstrual Syndrome among adolescent girls in Experimental and Control Group

SECTION IV: DATA ON ASSOCIATION BETWEEN THE LEVEL OF PREMENSTRUAL SYNDROME AMONG ADOLESCENT GIRLS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table 4.1

Frequency, Percentage and $\chi 2$ Distribution Of Level Of Premenstrual syndrome

Among adolescent Girls with their selected demographic variables.

N=60

S.No	Demographic variables	Mild		Moderate		$\chi 2$ value
		n	%	n	%	
1.	Age in years					
	a) 13-14	19	31.7	29	48.3	NS
	b) 15-16	3	5	9	15	0.878
	c) 17-19	0	0	0	0	df=2
2	Type of family					
	a) Nuclear	21	35	35	58.3	NS
	b) Joint	1	1.7	3	5	0.255 df=1
3	Order of birth					
	a) First	14	23.3	18	30	*
	b) Middle	0	0	10	16.7	6.919 df=2
	c) Last	8	13.3	10	16.7	

Contd…..

S.No	Demographic variables	Mild		Moderate		χ^2 value
		n	%	n	%	
4.	Number of siblings in family					
	a) No sibling	2	3.3	3	5	NS 0.069 df=2
	b) 1-2	17	28.3	29	48.3	
	d) More than 2	3	5	6	10	
5	Family history of premenstrual syndrome					
	a)Present	17	28.3	28	46.7	NS 0.095 df=1
	b)Not present	5	8.3	10	16.7	
6	Food preferences during premenstrual syndrome					
	a)Vegetarian	18	30	24	40	NS 1.211
	b) Non vegetarian	5	8.3	13	21.7	df=1
7	Duration of menstruation					
	a) 1-3 days	0	0	9	9	* 6.415
	b) 4-5 days	13	21.7	15	15	df=2
	c) 6-7days	9	15	14	14	

*Significant at <0.05 level, NS- Not Significant

With regard to Age among 13-14 years, 19(31.7%) had mild level of premenstrual syndrome, majority 29(48.3%) had moderate level of premenstrual syndrome. Among the category of 15-16 years 3(5%) had mild level of premenstrual

syndrome 9(15%) had moderate level of premenstrual syndrome. The chi square value obtained was 0.878. This value is not significant at $p < 0.05$ level and thus stated hypothesis is not supported. So it inferred that there is no significant association between age and premenstrual syndrome among adolescent girls.

With regard to Type of family who is residing in the category of nuclear family, 21(35%) had mild level of premenstrual syndrome, 35(58.3%) had moderate level of premenstrual syndrome. In the category of joint family 1(1.7%) had mild level of premenstrual syndrome, 3(5%) had moderate level of premenstrual syndrome. The chi square value obtained was 0.255. This value is not significant at $p < 0.05$ level and thus the stated hypothesis is not supported. So it is inferred that there is no significant association between type of family and premenstrual syndrome among adolescent girls.

With regard to Order of birth in the category of first born 14(23.3%) had mild level of premenstrual syndrome, majority 18(30%) had moderate level of premenstrual syndrome. In the category of middle born none of them had mild level of premenstrual syndrome, 10(16.7%) had moderate level of premenstrual syndrome. In the category of last born 8(13.3%) had mild level of premenstrual syndrome, 10(16.7%) had moderate level of premenstrual syndrome. The chi square value obtained was 6.919. This value is significant at $p < 0.05$ level. So it is inferred that there is significant association between order of birth and level of premenstrual syndrome among adolescent girls.

With regard to number of siblings in family in the category of no sibling, 2(3.3%) had mild level of premenstrual syndrome 3(5%) had moderate level of premenstrual syndrome. In the category of 1-2 siblings 17(28.3%) had mild level of premenstrual syndrome, majority 29(48.3%) had moderate level of premenstrual syndrome. In the category of more than 2 siblings 3(5%) had mild level of premenstrual syndrome 6(10%) had moderate level of premenstrual syndrome. The chi square value obtained was 0.069. This value is not significant at $p < 0.05$ level and thus the stated hypothesis is not supported. So it is inferred that there is no significant association between number of siblings in family and level of premenstrual syndrome among adolescent girls.

With regard to family history of premenstrual syndrome in the category of presence of family history 17(28.3%) had mild level of premenstrual syndrome, 28(46.7%) had moderate level of premenstrual syndrome. In the category of no family history 5(8.3%) had mild level of premenstrual syndrome, 10(16.7%) had moderate level of premenstrual syndrome. The chi square value obtained was 0.095. This value is not significant at $p < 0.05$ level and thus the stated hypothesis is not supported. So it is inferred that there is no significant association between family history and level of premenstrual syndrome among adolescent girls.

With regard to food preferences during premenstrual syndrome who prefers vegetarian diet 18(30%) had mild level of premenstrual syndrome, 24(40%) had moderate level of premenstrual syndrome. In the category of non vegetarian diet 5(8.3%) had mild level of premenstrual syndrome, 13(21.7%) had moderate level of premenstrual syndrome. The chi square value obtained was 1.211. This value is not

significant at $p < 0.05$ level and thus the stated hypothesis is not supported. So it is inferred that there is no significant association between food preferences and level of premenstrual syndrome among adolescent girls.

With regard to duration of menstruation in the category of 1-3 days of duration none of them had mild level of premenstrual syndrome, 9(15%) had moderate level of premenstrual syndrome. In the category of 4-5 days of duration 13(21.7%) had mild level of premenstrual syndrome, 15(25%) had moderate level of premenstrual syndrome. 9(15%) had mild level of premenstrual syndrome. In the category of 6-7 days of duration 14(23.3%) had moderate level of premenstrual syndrome. The chi square value obtained was 6.415. This value is significant at $p < 0.05$ level. So it is inferred that there is significant association between duration of menstruation and level of premenstrual syndrome among adolescent girls.

CHAPTER -V

DISCUSSION

CHAPTER - V

DISCUSSION

The aim of the present study was to evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on premenstrual syndrome among adolescent girls in selected school at Coimbatore. The study was conducted by using quasi-experimental pre test post test design with control group. The KPM Matriculation Higher Secondary School was selected for conducting the study. The sample size was 60, in experimental group 30 subjects and in control group 30 subjects were selected.

The Modified Stainer and Wilkins premenstrual syndrome scale containing 30 Yes or No type questions was administered to assess the level of premenstrual syndrome among adolescent girls.

The responses were analyzed by using descriptive statistics (Mean, Standard deviation, Frequency, Percentage) and inferential statistics (Paired 't' test and chi-square). Discussion on the findings was arranged based on the objectives of the study.

The first objective of the study was to evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on premenstrual syndrome among adolescent girls.

The study findings revealed that among 30 adolescent girls in experimental group during pre test, majority of the adolescent girls 19(63.3%) had moderate level of premenstrual symptoms and 11(36.7%) had mild level of premenstrual symptoms.

During post test all 30(100%) had mild level of premenstrual syndrome and there was a significant reduction in their post test score level.

Among control group, during pre test, majority of the adolescent girls19 (63.3%) had moderate level of premenstrual syndrome and 11(36.7%) had mild level of premenstrual syndrome. During post test majority of them 20(66.7%) had moderate level of premenstrual syndrome and 10(33.3%) had mild level of premenstrual symptoms. It shows that there was no difference in the level of premenstrual syndrome between pre test and post test among adolescent girls in the control group.

It is also revealed that in the experimental group during the pre test the mean value was 35.87 and standard deviation was 10.35, during post test, the mean value was 11.53 and the standard deviation was 4.04. The mean difference was 24.34. The obtained‘t’ value was 17.13 which was found to be significant at $p<0.001$ level.

In control group, during the pre test the mean value was 35.33 and the standard deviation was 10.32, during the post test the mean 34.73 and the standard deviation was 9.72. The mean difference was 0.6. The obtained‘t’ value was 1.75 which was not significant at $p<0.001$ level.

These findings were supported by Jyoti Dvivedi et al (2007) [N4], who assess the effects of relaxation technique on stress parameters in premenstrual syndrome. The study was conducted on 50 clinically healthy women who were in their reproductive age group and in their premenstrual period from which a control group (n=20) and a PMS group (n=30) based on the symptoms were identified. The results revealed that

there is significant reduction on stress parameters such as basal heart rate, systolic and diastolic blood pressure, respiratory rate, peripheral temperature after 10 minutes of Jacobson progressive Muscle relaxation technique.

This was also supported by Daley.A., (2009) who performed an observational study to evaluate the effects of relaxation exercise on premenstrual symptomatology. Four eligible intervention studies were identified. All of these reported a reduction in PMS and related symptomatology after participation in exercise interventions.

The second objective was to determine the association between premenstrual syndrome among adolescent girls with their selected demographic variables.

The study findings revealed that only the order of birth and duration of menstruation had a significant association with the level of premenstrual syndrome. Regarding order of birth the $\chi 2$ value obtained was 6.919 which was found to be significant at $p<0.05$ level. Thus the stated hypothesis is accepted and it is inferred that there is significant association between the order of birth and level of premenstrual syndrome. Regarding duration of menstruation the $\chi 2$ value obtained was 6.415 which was found to be significant at $p<0.05$ level. Thus the stated hypothesis is accepted and it is inferred that there is significant association between the duration of menstruation and level of premenstrual syndrome.

Regarding age the $\chi 2$ value obtained was 0.878 which was found to be not significant at $p < 0.05$ level and thus stated hypothesis is not supported and it is

inferred that there is no significant association between age and premenstrual syndrome. Regarding type of family the $\chi 2$ value obtained was 0.255 which was found to be not significant at $p < 0.05$ level and thus the stated hypothesis is not supported and it is inferred that there is no significant association between type of family and premenstrual syndrome. Regarding number of siblings the $\chi 2$ value obtained was 0.069 which was found to be not significant at $p < 0.05$ level and thus the stated hypothesis is not supported. So it is inferred that there is no significant association between number of siblings in family and level of premenstrual syndrome.

Regarding family history of premenstrual syndrome the $\chi 2$ value obtained was 0.095 which was found to be not significant at $p < 0.05$ level and thus the stated hypothesis is not supported. So it is inferred that there is no significant association between family history and level of premenstrual syndrome. Regarding food preferences the $\chi 2$ value obtained was 1.211 which was found to be not significant at $p < 0.05$ level and thus the stated hypothesis is not supported. So it is inferred that there is no significant association between food preferences and level of premenstrual syndrome.

From this present study it shows that Jacobson Progressive Muscle Relaxation Exercise was effective for the reduction of premenstrual syndrome among adolescent girls. The investigator experiences in adolescent girls from KPM Matriculation Higher Secondary School who have had mild, moderate level of premenstrual syndrome who were able to overcome it and there was a reduction in the level of premenstrual syndrome. So the investigator suggests that every girl with premenstrual syndrome can practice Jacobson Progressive Muscle Relaxation Exercise.

CHAPTER -VI

SUMMARY, CONCLUSION AND RECOMMENDATION

CHAPTER – VI

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter presents a brief account of the present study. Conclusions are drawn from the findings and the implications of the results are stated. It also includes recommendations for future research in this area.

Summary

The present study is to evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls in selected school at Coimbatore.

The Objective of the Study were

- To evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls.
- To determine the association between Premenstrual Syndrome among adolescent girls with their selected demographic variables.

A quasi-experimental pre test post test design with control group was used to evaluate the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls.

A non-probability purposive sampling technique was adopted to select the samples with inclusion criteria. Sample size was 60, 30 in experimental and 30 in control group.

A structured self administered questionnaire was used for the study. It contains.

Part I : Consists of demographic variables of adolescent girls with premenstrual syndrome

Part II : Consists of Modified Stainer and Wilkins PMS Diagnostic criteria

Data collection was done using the self administered questionnaire. The contents of the tool were checked and evaluated by seven experts. The experts were two doctors specialized in obstetrics and gynecology and five nursing experts in obstetrics and gynecology. Pre test was done on day '1' (1 week before the menstruation) mild and moderate levels of premenstrual syndrome girls were selected. Followed by demonstration and practice of Jacobson Progressive Muscle Relaxation Exercise for a period of 30 days was given. Post test was done on day '30'and data were collected.

The collected data were analyzed using both descriptive statistics (Mean, frequency, percentage and standard deviation) and inferential statistics (paired't'test and chi square) to test the hypotheses.

Major Study Findings

Major study findings include

- Regarding demographic variables among adolescent girls majority were belonged to 13-14 years of age, lives in nuclear family, were born first, had 1-2 siblings, had the family history of premenstrual syndrome, were prefers vegetarian diet during premenstrual syndrome and had 4-5 days of menstruation.

- Regarding the level of premenstrual syndrome in both experimental group and control group during pre test majority had moderate level of premenstrual syndrome and during post test majority of adolescent girls in experimental group had mild level of premenstrual syndrome in control group there were no measurable difference.

- With regard to effectiveness of Jacobson Progressive Muscle Relaxation Exercise on premenstrual syndrome among adolescent girls, the post test mean score 11.53 was lesser than the pre test mean score 35.87. The obtained‘t’ value was 17.13 which was found to be significant at $p<0.001$ level.

- With regard to association between the level of premenstrual syndrome among adolescent girls with their selected demographic variables there were significant association found with order of birth and duration of menstruation and other variables Age, Type of family, Number of siblings, Family history of premenstrual syndrome, Diet were found to be not significant.

Conclusion

The main conclusions drawn from this present study was that most of the adolescent girls had moderate level of premenstrual syndrome. After the practice of Jacobson Progressive Muscle Relaxation Exercise, their level of premenstrual syndrome has decreased significantly. They felt relaxed very much. This shows the essential need to understand the uses of Jacobson Progressive Muscle relaxation exercise on premenstrual syndrome among adolescent girls. After the completion of

the study, subjects in control group were taught about the Jacobson progressive muscle relaxation exercise.

Implication of the Study

According to Tolsma, (1995) the section of the research reports that focuses on nursing implication usually includes specific suggestions for nursing practice, education, administration and nursing research.

Nursing Practice

The findings of the study clearly point out that Jacobson progressive muscle relaxation exercise intervention is effective in reduction of premenstrual syndrome among adolescent girls. The reduction of premenstrual syndrome among adolescent girls has an important role to play in enabling effectiveness of Jacobson progressive muscle relaxation exercise intervention as an independent nursing intervention. This can be facilitated by motivating nurses to

- Apply this relaxation exercise to reduce the level of premenstrual syndrome among adolescent girls.
- Understand the importance of relaxation exercise intervention as an adjunct to the pharmacologic therapy
- The nursing personnel can be able to develop specific skill in providing relaxation exercise on premenstrual syndrome.
- This intervention can be used for preventing further complication among girls with premenstrual syndrome.

Nursing education

The practical knowledge of the nurse depends upon the education they receive. So, the nursing education should prepare the nurses to realize their responsibility as 'Nurse educators'. The curriculum should prepare the students to render their health services in various settings like hospital, school, industry and other areas.

- Ensure that they learn the assessment of level of premenstrual syndrome and effectiveness of relaxation exercise intervention in reduction of premenstrual syndrome, as an independent nursing intervention.
- Arrange for participation in demonstrating relaxation exercise techniques by audio-visual aids, group conferences and bed side clinics.
- Make available literature related to relaxation exercise in reduction of level of premenstrual syndrome in the library, for student reference.
- The complementary therapies for premenstrual syndrome can be included in the nursing curriculum.

Nurse Administration

Administration should motivate the nursing personnel to conduct the inservice education, continuing education program on premenstrual syndrome.

- Administrators have to motivate the Medias to educate the women of reproductive age on the importance of practicing relaxation exercise.
- Periodic mass demonstration program to be arranged in the schools, industry, community, hospitals.

- Education pamphlets containing information about premenstrual syndrome, causes, signs & symptoms, measures to cope with premenstrual syndrome, complementary therapies for premenstrual syndrome pictures easily available in the hospital and should have a wider circulation.
- In service education programme can be organized for the nurses on this complementary technique.

Nursing Research

- There is a necessity to conduct further research studies in developing countries like India to prove the effectiveness of Jacobson progressive muscle relaxation exercise on reducing premenstrual syndrome.
- The findings of the present study may help to expand the study in different disease conditions and operative procedures.
- The study findings can be added to the research review the effectiveness of Jacobson progressive muscle relaxation exercise on reducing premenstrual syndrome.
- The study findings can be disseminated through the conference, seminars, and by publications in professional, national and international journals and World Wide Web.

Recommendations

- The study can be replicated with other setting.
- The same study can be done with one group pre test post test design.
- The comparative study can be conducted with other complementary therapies.

- The same study can be conducted among other reproductive age group women.
- The same study can be conducted as an experimental approach.

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APPENDICES

APPENDIX-A
Requisition for Content Validity

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
Industrial Estate Post,
COIMBATORE - 641 021.

Phone : 0422 - 2675641, 2672705
Fax : 0422 - 2676016
Email : ceandct@dataone.in
Website: www.annaimeenakshi.in

Ref. No.

Date : .....

Requisition for Content Validity

From

Ms.Sonta.V.R
II year M.Sc(N)
Annai Meenakshi College of Nursing,
Coimbatore – 21.

Through
The Principal,
Annai Meenakshi College of Nursing,
Coimbatore – 21.

PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

To
Dr. NALLI CHANDHRA.
M.B.B.S. M.D.(O.G.)

Respected Sir/Madam,

Sub: Requisition for expert opinion and suggestion for content validity of the tools – Reg.

I am a student of M.Sc., Nursing II year of Annai Meenakshi College of Nursing, Coimbatore, affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai. As a partial fulfillment of the M.Sc., Nursing programme, I am conducting a study to assess the "Effectiveness Of Jacobson's Progressive Muscle Relaxation Exercise On Premenstrual Syndrome Among Adolescent Girls In A Selected School At Coimbatore". I am hereby enclosing the following:

1. Statement and objectives of the study
2. Hypothesis
3. Methodology
4. Jacobson's Progressive muscle relaxation exercise
5. Questionnaires / Tool
6. Content Validity certificate.

Herewith I am submitting the developed tool for content validity and for expert opinion and possible suggestion. It will be grateful to you and request you to return the same to the undersigned at the earliest possible.

Thanking you,

Yours faithfully,

Place: Coimbatore
Date:

APPENDIX - B

Name list of Experts who Validated the Tool.

Dr. KUNTHAVI DEVI, M.B.B.S, DGO.,

Gynaecologist,

Sri Abirami hospital,

Coimbatore.

Dr. NALLI CHANDRA, M.B.B.S., M.D.(O.G.).,

Tutor in Obstetrics and Gynaecology,

Coimbatore Medical College Hospitals,

Coimbatore.

Mrs. RENUKA, M.Sc., (N),

HOD OBG Department,

K.M.C.H. College of Nursing,

Coimbatore.

Mrs. VASUMATHI, M.Sc., (N),

Professor,

Vel R.S. College of Nursing,

Chennai.

Mrs. SHEEBA, M.Sc., (N),

Professor,

K.G. College of Nursing,

Coimbatore.

Mrs. LATHA, M.Sc.,(N),

Associate Professor,

S.R.M. College of Nursing,

Chennai.

Mrs. MUTHULAKSHMI, M.Sc., (N),

Principal,

PPG College of Nursing,

Coimbatore.

ANNAI MEENAKSHI COLLEGE OF NURSING

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Email : ceandct@dataone.in
Website: www.annaimeenakshi.in

Ref. No.

Date : .....

Certificate of Validation

This is to certify that the tools developed by **Ms.Sonia.V.R**, M.Sc (N) Final year student of Annai Meenakshi College of Nursing, Coimbatore, Tamil Nadu (Affiliated to The Tamil Nadu Dr.M.G.R. Medical University, Chennai) is validated by undersigned and can proceed with this tool and conduct the main study for dissertation entitled a study to assess the "Effectiveness Of Jacobson's Progressive Muscle Relaxation Exercise On Premenstrual Syndrome Among Adolescent Girls In A Selected School At Coimbatore".

Place: Coimbatore

Signature

Date:

Name and Designation

Dr. R. NALLICHANDRA, MD.(O&G)
Reg. No : 57509
TUTOR IN OBSTETRICS & GYNECOLOGY
COIMBATORE MEDICAL COLLEGE HOSPITALS
COIMBATORE - 641 018

APPENDIX – D

Letter Seeking Permission To Conduct Study

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

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Phone : 0422 - 2675641, 2672705
Fax : 0422 - 2676016
Email : ceandct@dataone.in
Website: www.annaimeenakshi.in

Ref. No.

Date : May 31, 2010

TO THE PRINCIPAL,

KPM Matriculation HR Sec. School
COIMBATORE.

PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

Respected Sir,

Ms.V.R.Sonia, is a student of M.Sc., (Nursing) II year from Annai Meenakshi College of Nursing, Coimbatore. She is conducting a study to assess the "EFFECTIVENESS OF JACOBSON'S PROGRESSIVE MUSCLE RELAXATION EXERCISE ON PREMENSTRUAL SYNDROME AMONG ADOLESCENT GIRLS IN A SELECTED SCHOOL AT COIMBATORE".

This is for her research work to be submitted to the Tamil Nadu Dr. M.G. R. Medical University in Partial fulfillment of the university requirement for the award of M.Sc., (Nursing) Degree.

As a part of her study she would like to collect the data from the 8th to 12th standard students. Project will be furnished by the student personally. The student will follow the norms, ethics and policies practiced in School setting..

Thanking you,

Yours faithfully,

APPENDIX-E

Letter granding permission to conduct the study

Cell : 99944 83334

KPM

Matriculation Higher Secondary School

DEEBA NAGAR, POLLACHI ROAD, COIMBATORE - 641 021.

Managing Trustee : P. ARUMUGAM M.A., M.Ed., M.Litt.,

Secretary : Mrs. A. UMA MBA

Principal : A. KARUNANIDHI M.Sc., B.Ed., M.Phil

Ref.No.: .....

Date : 16.06.10

To

Selvi V R Sonia
M.Sc Nursing (II year),
Annai Meenakshi College of Nursing,
Coimbatore.

We would like to inform you that we have granted permission to do her project effectiveness of Jacobson progressive muscle relaxation exercise on premenstrual syndrome among adolescent girls in our school for the level of VIII to XII std students during the period 01/07/2010 to 15/08/2010.

Thanking you,

A. Karunanidhi
16/06/10

PRINCIPAL,
KPM. MATRIC. HR. SEC. SCHOOL
COIMBATORE — 641 021.

Cell : 99944 83332

KPM PRIMARY SCHOOL

125-A, Main Road, Podanur, Coimbatore - 641 023.

APPENDIX – F

CONSENT FORM

Sample No :( )

Respected madam,

I am Miss. Sonia.V.R. doing my II year M.sc (Nursing) in Annai Meenakshi College of nursing, Coimbatore. I am doing a research on the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls. I kindly request your co operation to complete my research. I assure you that you will not get any side effects due to my research.

I am miss…….. heard about the effectiveness of Jacobson Progressive Muscle Relaxation Exercise on Premenstrual Syndrome among adolescent girls from Sonia .V.R. she explained me about the effects of exercise so I agree to participate in this research wholeheartedly.

Place:

Date:

Yours sincerely,

APPENDIX –G

PART: I

DEMOGRAPHIC VARIABLES

Sample No:( )

Instruction: Please tick in the appropriate column

1 Age

a. 13-14 years ☐

b. 15-16 years ☐

c. 17-19 years ☐

2 Type of family

a. Nuclear ☐

b. Joint ☐

3 Order of birth

a. First ☐

b. Middle ☐

c. Last ☐

4 Number of siblings in family

a. No sibling ☐

b. 1-2 ☐

c. More than 2 ☐

5 Family history of PMS

a. Present ☐

b. Not present ☐

6 Food preferences during PMS

a. Vegetarian ☐

b. Non vegetarian ☐

7 Duration of Menstruation

a. 1-3 days ☐

b. 4-5 days ☐

c. 6-7 days ☐

PART II

MODIFIED STAINER & WILKINS, 1996 PMS DIAGNOSTIC CRITERIA

S.No	Questions	No	Yes		
		0	Mild 1	Moderate 2	Severe 3
1	Do you feel breast tenderness?				
2	Do you gain weight?				
3	Do you have swelling over breast?				
4	Do you feel muscle pain?				
5	Do you have poor concentration?				
6	Do you have sleep disturbance?				
7	Do you have more appetite?				
8	Do you have bloating of the abdomen?				
9	Do you have mood disturbance?				
10	Do you feel hopelessness?				
11	Do you have anxiety?				
12	Do you feel tensed?				
13	Do you feel sad suddenly?				

14	Do you experience irritability?				
15	Do you get fatigued easily?				
16	Do you feel lack of energy on and off?				
17	Do you have had ache?				
18	Do you have craving thought?				
19	Do you avoid social activity?				
20	Do you feel difficulty to complete work?				
21	Do you feel lethargic?				
22	Do you get excess anger?				
23	Do you sleep excessively				
24	Do you take less food?				
25	Do you feel more sensitive to rejection?				
26	Do you loose your patience suddenly?				
27	Do you develop acne before menstruation?				
28	Do you develop dizziness?				
29	Do you get suicidal thoughts?				
30	Do you experience abdominal cramps?				

1-30 = Mild

31-60 = Moderate

61-90 = Severe

APPENDIX- H

INTERVENTION MODULE

DEFINITION

Jacobson's Progressive muscle relaxation exercise is a muscle relaxation technique involving a systematic tensing and relaxing of muscles from head to toe.

PURPOSE:

- It reduces anxiety
- It relieves chronic pain.
- It reduces depression.
- It promotes sleep.
- It maintains Blood pressure.

INDICATION:

- Ulcer,
- Insomnia.
- Anxiety
- Hypertension
- Depression
- Chronic pain.

CONTRAINDICATION:

- Muscle spasm

- Injuries
- Fractures

PROCEDURE

PREPARATION OF PATIENT:

- Explain the procedure and gain confidence
- Provide privacy
- Remove shoes
- Don’t Cross legs
- Get as comfortable as possible
- Take deep a breath

1.	Right hand and forearm	Make a fist Release
2.	Right upper arm	Bend the arm and "show off your muscles" Release
3.	Left hand and forearm	Make a fist Release
4.	Left upper arm	Bend the arm and tighten the muscles Release
5.	Forehead	Raise your eyebrows Relax your face
6.	Eyes and cheeks	Squeeze the eyes Relax
7.	Mouth and jaw	Clench your teeth and pull the corners of the mouth back Relax
8.	Shoulder and	A little pre-training first: lock your hands behind the neck and

	neck	push back the head against this resistance (the head does not alter its position) - got the idea? That's how this should feel: pull up your shoulders and press your head back against their resistance (horizontally - not like when you look up) let your shoulders hang, relax
9.	Chest and back	Breathe in deeply and hold your breath pressing the shoulders together at the back at the same time let your shoulders hang, breathe normally
10.	Belly	Tighten the abdominal muscles (or draw in the belly) Release
11.	Right hand thigh	Shovel the right foot forward against resistance (while it keeps its position) Release
12.	Right hand calf	Lift up the right heel (be careful not to cramp) Release
13.	Right foot	Crook the toes Release
14.	Left hand thigh	Shovel your left food forward Relax
15.	Left hand calf	Lift up the left heel Release
16.	Left foot	Crook the toes

AFTER CARE OF THE PATIENT AND THE ARTICLES:

- Breath in deeply
- Stretch yourself
- Repeat it again
- Record the observation.

JACOBSON PROGRESSIVE MUSCLE RELAXATION EXERCISE PROCEDURE